

ATTENTION: HARDNESS BLOCKS FOR CALIBRATION ARE OPTIONAL

ATTENTION: NEED TO CONFIRM IF THE WORKPIECES ARE SUITABLE BEFORE PURCHASE

## ULTRASONIC HARDNESS TESTER CODE ISHU-330

INSPECTION  
CERTIFICATE

DATA  
OUTPUT



software CD  
(included)

### Application:

1. For steel material
2. Test surface hardening layers (carburized, nitriding, high frequency hardened, etc.)
3. Suitable for arc and conical surface
4. Suitable for small or light workpieces
5. Test large workpieces at any direction
6. Suitable for rough surfaces



test flat surfaces  
(with the cover)



test cylinder surfaces  
(use V-groove  
on the cover)



- Small test indentation
- Test force and time are not affected by the operator
- Quick testing, only 2 seconds
- Average and statistics test modes
- Memory of 1024 test results for browsing and output
- Automatic power off
- Anti-dust and waterproof

### SPECIFICATION OF MAIN UNIT

Hardness scale	HV, HB, HRC, MPa	
Range	100~940HV, 80~650HB, 20~70HRC, 370~1740MPa	
Resolution	1HV, 1HB, 0.1HRC, 1MPa	
Accuracy	HB	±3%
	HV	±3%
	HRC	±1.5%
Data output	USB	
Operation temperature	-20°C ~ +40°C	
Power supply	built-in rechargeable battery	
Dimension of main unit	120×60×25mm	
Weight of main unit	200g	

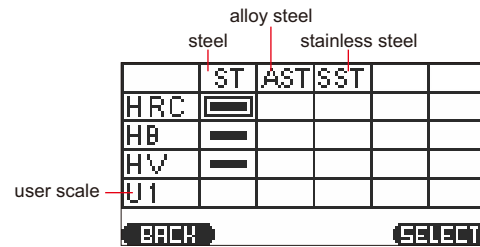
### STANDARD DELIVERY

Main unit	1 pc
Probe A	1 pc
Rechargeable battery	2 pcs
Charger	1 pc
Software and USB cable	1 pc

### SPECIFICATION OF PROBE

Type	A (standard)	B (optional)
Test force	50N	10N (small force)
Application	general use	plating
Maximum roughness of workpieces (Ra)	2.5µm	1.5µm
Minimum weight of workpieces (direct measurement)	0.1kg *	0.1kg *
Minimum thickness of workpieces (direct measurement)	1mm *	1mm *
Minimum radius of workpieces	5mm	5mm
Minimum thickness of surface hardening layer or plating	0.1mm	0.03mm
Minimum test area	Ø1mm	Ø1mm
Dimension and weight of probe	140×Ø37mm, 271g	145×Ø37mm, 271g

\* If the weight or thickness of workpieces is less than required, the workpieces should be fixed or coupled on solid support.



select the material and scale, use the corresponding standard hardness blocks or workpieces for calibration (calibration of HRC, HB and HV for steel are already made, calibration is needed before use other materials and scales)

### OPTIONAL ACCESSORY

Probe B	ISHU-460-B
Couplant	ISH-COUPPLANT
Hardness block HRC20~30	HDT-B-HRC1
Hardness block HRC35~55	HDT-B-HRC2
Hardness block HRC60~70	HDT-B-HRC3
Hardness block 200~300HV5	HDT-B-HV5B
Hardness block 400~500HV5	HDT-B-HV5D
Hardness block 700~750HV5	HDT-B-HV5G
Hardness block 90~200HBW10/1000	HDT-B-HB10C1
Hardness block 200~300HBW10/3000	HDT-B-HB10A2
Hardness block 400~500HBW10/3000	HDT-B-HB10A4

## PORTABLE LEEB HARDNESS TESTER APPLICABLE MATERIAL AND HARDNESS RANGE OF IMPACT DEVICE D

Material	HLD	HV	HB	HRC	HRB	HS	Tensile strength (MPa)
Steel & cast steel	300-900	81-955	81-654	20-68	38-100	32-100	375-2639
Tool steel	300-840	80-898		20-67			
Stainless steel	300-800	85-802	85-655		46-101		
Cast iron	360-650		93-334				
Cast aluminum alloy	170-570		19-164		23-84		
Brass	200-550		40-173		13-95		
Bronze	300-700		60-290				
Copper	200-690		45-315				

## PORTABLE LEEB HARDNESS TESTER CODE ISH-PHB



- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Memory of 99 measurement values for browsing
- Set measurement times (1~9) to have average value
- Connected with printer via bluetooth
- Automatic power off, according to ASTM A 956



hardness test block D (included)



small support ring (included)



wireless printer (optional)

### SPECIFICATION

<b>Min. reading</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	
<b>Accuracy</b>	±6HLD (when HLD=800)	
<b>Display</b>	Leeb (HLD), converted hardness, material, impact direction, test times, average value, date	
<b>Output</b>	bluetooth	
<b>Applicable workpiece</b>	minimum weight	5kg
		2kg (on solid support)
		0.1kg (coupled on plate)
	minimum thickness: 5mm	
minimum radius of curved surface: 30mm		
maximum roughness (Ra): 1.6µm		
<b>Power supply</b>	3×AAA batteries	
<b>Dimension</b>	150×84×28mm	
<b>Weight</b>	200g	

### STANDARD DELIVERY

<b>Main unit</b>	1 pc
<b>Impact device D</b>	1 pc
<b>Hardness test block D</b>	1 pc
<b>Small support ring</b>	1 pc
<b>Cleaning brush</b>	1 pc

### OPTIONAL ACCESSORY

<b>Wireless printer</b>	ISH-DS-PRINTER
<b>Couplant</b>	ISH-COULPLANT
<b>Support rings</b>	refer to details
<b>Hardness test block D</b>	HDT-B-HLD3



## PORTABLE LEEB HARDNESS TESTER CODE ISH-SPHA

- Based on Leeb (HL), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Connected with printer via bluetooth
- Connected with computer via USB port
- Up to 800 test results can be saved
- Tolerance testing
- Touch screen operation, large display with backlight
- Language: English, Chinese, Italian, German, French and Portuguese
- Automatic power off
- According to ASTM A 956



software CD  
(included)



hardness test  
block D (included)



small support ring  
(included)



printer (included)

### SPECIFICATION

Min. reading	1HL, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa
Accuracy	±6HL (when HL=800)
Display	Leeb (HL), converted hardness, material, impact direction, test times, average value, deviation, time
Output	bluetooth and USB
Power supply	built-in rechargeable battery
Dimension	135×83×24mm
Weight	350g

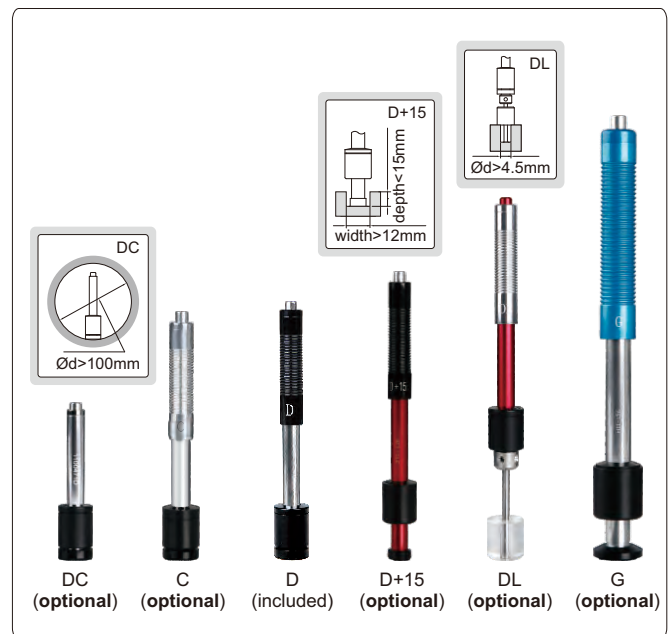
### STANDARD DELIVERY

Main unit	1 pc
Impact device D	1 pc
Printer	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
AC/DC adapter	1 pc
Software disc and USB cable	1 pc
Pen for touch screen	1 pc

### OPTIONAL ACCESSORY

Impact device DC	ISH-SPHA-DC
Impact device C	ISH-SPHA-C
Impact device D+15	ISH-SPHA-D15
Impact device DL	ISH-SPHA-DL
Impact device G	ISH-SPHA-G
Hardness test block D*	HDT-B-HLD3
Hardness test block G*	HDT-B-HLG2
Couplant	ISH-COUPPLANT
Support rings	refer to details

\* Hardness test block G (HDT-B-HLG2) is for impact device G (ISH-SPHA-G).  
Hardness test block D (HDT-B-HLD3) is for all others impact devices.



### APPLICABLE WORKPIECE

Impact device	DC	C	D	D+15	DL	G
Application	inner wall of small space	small or thin workpiece, coating layer	general use	deep groove	narrow slot or small hole	casting or forging workpiece
Maximum roughness of workpiece (Ra)	1.6µm	0.4µm	1.6µm	1.6µm	1.6µm	7µm
Minimum weight of workpiece	direct measurement	5kg	1.5kg	5kg	5kg	15kg
	on solid support	2kg	0.5kg	2kg	2kg	5kg
	coupled on plate	0.1kg	0.02kg	0.1kg	0.1kg	0.5kg
Minimum thickness of workpiece	5mm	1mm	5mm	5mm	5mm	10mm

## PORTABLE LEEB HARDNESS TESTERS (BASIC TYPE)



- Can change probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Operation temperature: -10°C~45°C
- According to ASTM A956, DIN 50156, GB/T 17394

### SPECIFICATION

Code	HDT-LP200	HDT-LP200B
Printer	not included	included
Output	-	bluetooth
Resolution	1HLD/1HV/1HB/0.1HRC/0.1HRB/ 0.1HRA/0.1HS/1SGM	
Accuracy	±6HLD (when HLD=800)	
Measuring range	HL 100-960/HRC 0.9-79.2/HRB 1-140/ HB 1-1878/HV 1-1698/HS 0.5-1370/ HRA 1-88.5/SGM (rm) 1-6599N/mm <sup>2</sup>	
Power supply	2xAA battery	
Dimension	127×67×30mm	
Weight	240g	

### STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
Impact device D	1 pc
Printer (included in HDT-LP200B)	1 pc

### OPTIONAL ACCESSORY

Impact device DC	HDT-LP200-DC
Impact device C	HDT-LP200-C
Impact device D+15	HDT-LP200-D15
Impact device DL	HDT-LP200-DL
Impact device E*	HDT-LP200-E
Impact device G	HDT-LP200-G
Hardness test block D**	HDT-B-HLD3
Hardness test block G**	HDT-B-HLG2
Support rings	refer to details

\*Impact device E (HDT-LP200-E) must be purchased together with the main unit.

\*\*Hardness test block G (HDT-B-HLG2) is for impact device G (HDT-LP200-G).

Hardness test block D (HDT-B-HLD3) is for all others impact devices.



HDT-LP200



hardness test block D (included)



small support ring (included)

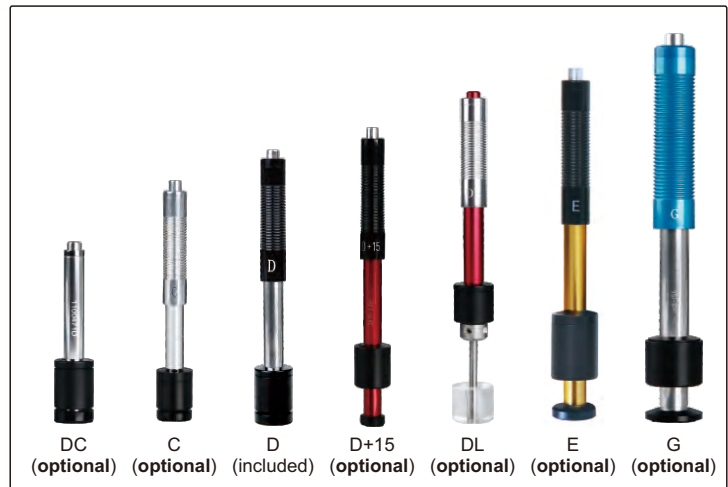


wireless printer (included in HDT-LP200B)



large font display

statistics display



DC (optional) C (optional) D (included) D+15 (optional) DL (optional) E (optional) G (optional)

### APPLICABLE WORKPIECE

Impact device	DC	C	D	D+15	DL	E	G
Application	inner wall of small space	small or thin workpiece, coating layer	general use	deep groove	narrow slot or small hole	very hard material	casting or forging workpiece
Maximum roughness of workpiece (Ra)	2µm	0.4µm	2µm	2µm	2µm	2µm	7µm
Minimum weight of workpiece	direct measurement	5kg	1.5kg	5kg	5kg	5kg	15kg
	on solid support	2kg	0.5kg	2kg	2kg	2kg	5kg
	coupled on plate	0.05kg	0.02kg	0.05kg	0.1kg	0.05kg	0.5kg
Minimum thickness of workpiece	3mm	1mm	3mm	3mm	3mm	3mm	10mm

DATA OUTPUT

HIGH ACCURACY

DL PROBE IS OPTIONAL

## PORTABLE LEEB HARDNESS TESTER (HIGH ACCURACY) CODE HDT-L410

**INSPECTION CERTIFICATE**



- Metal housing
- HD TFT 320×320 display
- Impact device D
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Four display modes
- Automatic direction correction
- Tolerance testing
- Automatic power off, automatic calculation of statistics
- Dual value display, shows both Leeb and other conversion values
- 31 files can be saved, each containing 100 measurement data
- Connected to PC software via USB or Bluetooth 2.0
- Connected with printer via Bluetooth
- Operation temperature: -20°C~70°C
- According to ASTM A956, DIN 50156, GB/T 17394



software CD (included)



hardness test block D (included)



wireless printer (optional)

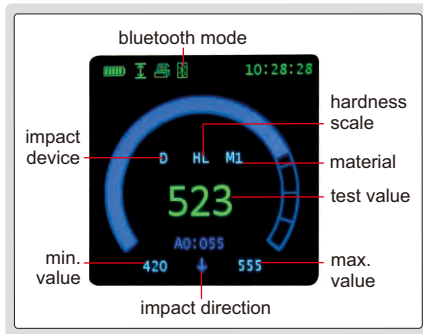


small support ring (included)

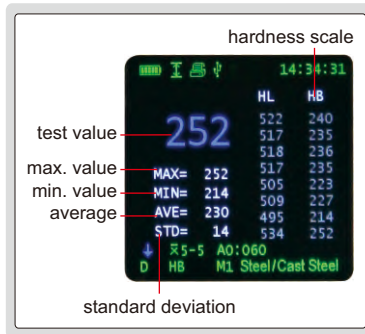
DL probe can be installed (optional)



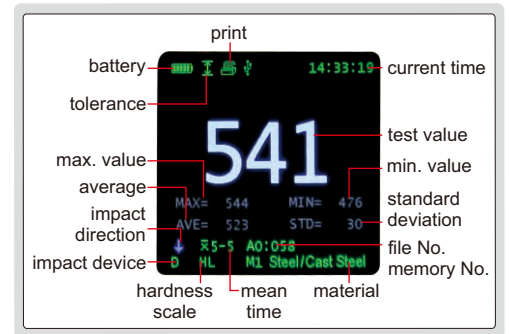
dynamic ring display



statistic display

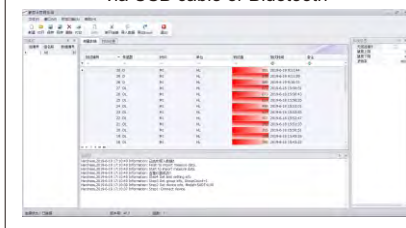


can choose large font display

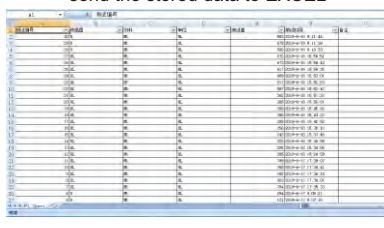


software (included), upload the memory to PC, print and send to EXCEL

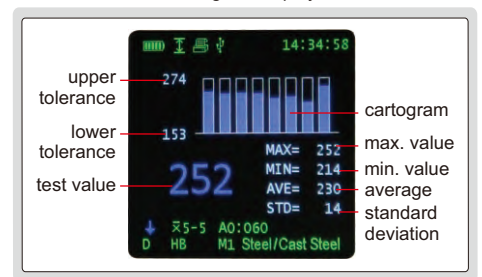
upload the memory to PC software via USB cable or Bluetooth



send the stored data to EXCEL



histogram display



### SPECIFICATION

<b>Resolution</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
<b>Accuracy</b>	±4HLD (when HLD=800)	
<b>Output</b>	USB and bluetooth	
<b>Applicable workpiece</b>	minimum weight	5kg (direct measurement)
		2kg (on solid support)
		0.05kg (coupled on plate)
	minimum thickness: 5mm	
minimum radius of curved surface: 30mm		
maximum roughness (Ra): 2µm		
<b>Power supply</b>	built-in 3.7V rechargeable battery	
<b>Dimension</b>	148×44×22mm	
<b>Weight</b>	115g	

### STANDARD DELIVERY

<b>Main unit</b>	1 pc
<b>Hardness test block D</b>	1 pc
<b>Small support ring</b>	1 pc
<b>Cleaning brush</b>	1 pc
<b>AC/DC adapter</b>	1 pc
<b>Software disc and USB cable</b>	1 pc

### OPTIONAL ACCESSORY

<b>Printer</b>	HDT-L410-PRINTER
<b>Support rings</b>	refer to details
<b>Hardness test block D</b>	HDT-B-HLD3
<b>DL probe</b>	HDT-L410-DL

# PORTABLE LEEB HARDNESS TESTER (BASIC TYPE) CODE HDT-L411

DATA  
OUTPUT

INSPECTION  
CERTIFICATE



software CD  
(included)



VIDEO



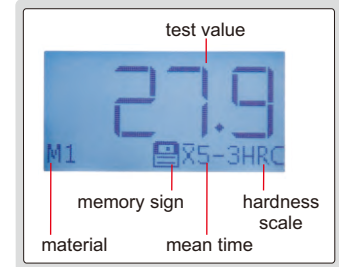
hardness test  
block D (included)



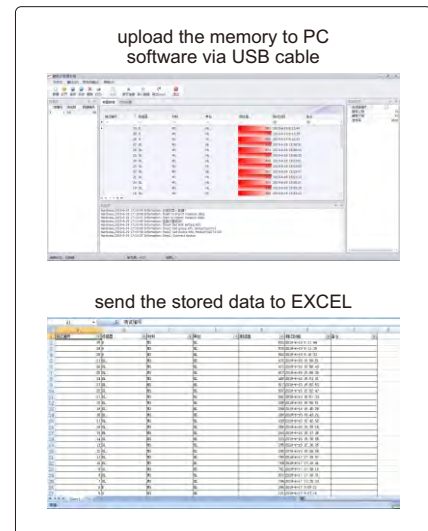
small support ring  
(included)



can choose large font display



software (included), upload the memory  
to PC, print and send to EXCEL



- Impact device D
- Universal testing angle, no need to set impact direction
- Dual-coil probe, high accuracy
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- High contrast digital LCD display
- Can choose large font display
- Automatically calculate maximum, minimum, average value
- Connected to PC via USB
- Save 999 data
- Operation temperature: -20°C~45°C
- According to ASTM A956, DIN 50156, GB/T 17394

## SPECIFICATION

<b>Resolution</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
<b>Accuracy</b>	±6HLD (when HLD=800)	
<b>Output</b>	USB	
<b>Measuring range</b>	HL100-960, HRC1-74.7, HRB1.2-140, HB28-1027, HV45-1230, HS4-112, HRA7-88.5, SGM (rm) 118-3315N/mm <sup>2</sup>	
<b>Applicable workpiece</b>	minimum weight	5kg (direct measurement)
		2kg (on solid support)
		0.05kg (coupled on plate)
	minimum thickness: 5mm	
minimum radius of curved surface: 30mm		
maximum roughness (Ra): 2µm		
<b>Power supply</b>	1xAAA battery	
<b>Dimension</b>	148×45×21mm	
<b>Weight</b>	105g	

## STANDARD DELIVERY

<b>Main unit</b>	1 pc
<b>Hardness test block D</b>	1 pc
<b>Cleaning brush</b>	1 pc
<b>AAA battery</b>	1 pc
<b>Small support ring</b>	1 pc
<b>Software disc and USB cable</b>	1 pc

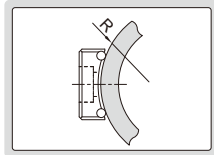
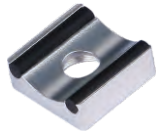
## OPTIONAL ACCESSORY

<b>Support rings</b>	refer to details
<b>Hardness test block D</b>	<b>HDT-B-HLD3</b>

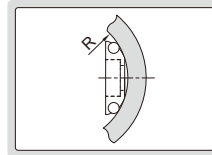


## SUPPORT RING SET FOR PORTABLE LEEB HARDNESS TESTER CODE ISH-PH-SP9

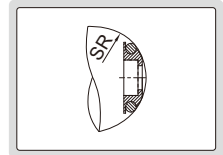
type A



type B



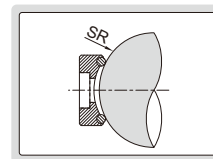
type C



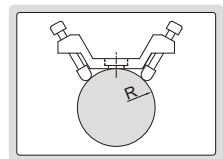
### SPECIFICATION

Type	Applicable workpieces	Range (mm)	Quantity
A	cylindrical outside surface	R10-15	3 pcs
		R14.5-30	
		R25-50	
B	cylindrical inside surface	R11-13	3 pcs
		R12.5-17	
		R16.5-30	
C	spherical inside surface	SR11-13	3 pcs
		SR12.5-17	
		SR16.5-30	
D	spherical outside surface	SR10-15 SR14.5-30	2 pcs
E	cylindrical outside surface	R>10	1 pc

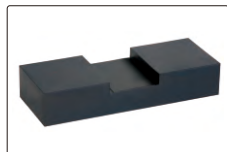
type D



type E



## DIGITAL MAGNETIC ROCKWELL HARDNESS TESTER CODE ISHR-D121



flat anvil for test block  
(included)



- Apply to large and heavy steel or iron workpieces
- With statistic function, display average, maximum and minimum values
- Convert to HV, HB and tensile strength
- According to ISO 6508, ASTM E18



### SPECIFICATION

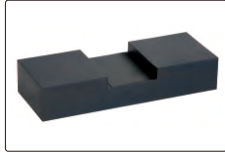
Hardness scale	HRA, HRB, HRC
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	0.1HR
Flat workpiece requirement	length>190mm, width>60mm, thickness>5mm
Cylinder or tube workpiece requirement	length>200mm, diameter>Ø50mm, wall thickness>8mm
Power supply	3×AAA batteries
Dimension	245×105×230mm
Weight	5.3kg

### STANDARD DELIVERY

Main unit	1 pc
Flat anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Hardness test block HRB85~95	1 pc
Hardness test block HRC60~70	1 pc
Hardness test block HRC20~30	1 pc

## MAGNETIC ROCKWELL HARDNESS TESTER CODE ISHR-M111

- Apply to large and heavy steel or iron workpieces
- According to ISO 6508, ASTM E18



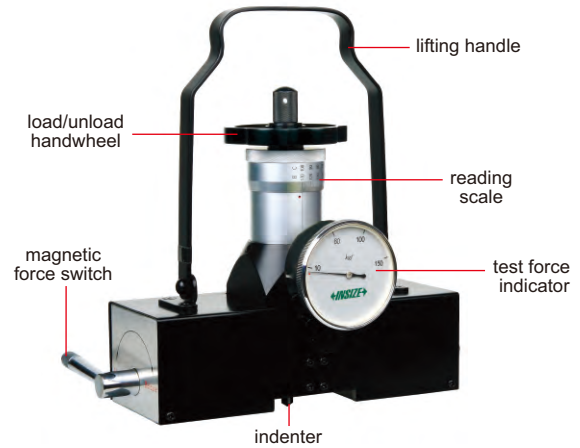
flat anvil for test block (included)



supports for cylinder or tube workpieces (included)



magnifier with LED (included)



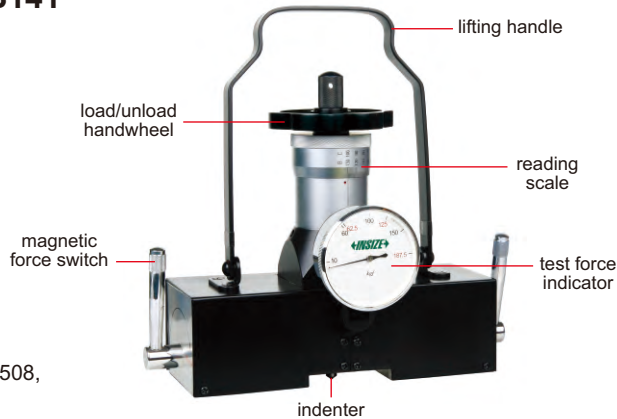
### SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	1HR
Flat workpiece requirement	length>180mm, width>60mm, thickness>5mm
Cylinder or tube workpiece requirement	length>180mm, diameter>Ø50mm, wall thickness>8mm
Dimension	220×70×220mm
Weight	4.7kg

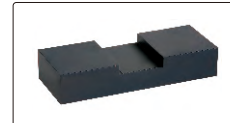
### STANDARD DELIVERY

Main unit	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	2 pcs
Hardness test block HRB85-95	1 pc
Hardness test block HRC60-70	1 pc
Hardness test block HRC20-30	1 pc
Flat anvil	1 pc
Support	4 pcs
Magnifier with LED	1 pc

## MAGNETIC BRINELL/ROCKWELL HARDNESS TESTER CODE ISHR-B141



- Apply to large steel or iron workpieces
- According to ISO 6508, ASTM E18



flat anvil for test block (included)



supports for cylinder or tube workpieces (included)



magnifier with LED (included)



measuring microscope (included)

### SPECIFICATION

Rockwell scale	HRA, HRB, HRC, HRD, HRF, HRG
Brinell measuring range	20~650HBW
Rockwell test force	10kg preload, 60kg, 100kg, 150kg total load
Brinell test force	62.5kg, 125kg, 187.5kg
Load control	manual
Min. Rockwell reading	1HR
Measuring microscope	40X, graduation 0.01mm
Flat workpiece requirement	length>180mm, width>60mm, thickness>5mm
Cylinder and tube workpiece requirement	length>180mm, diameter>Ø50mm, thickness>8mm
Dimension	220×70×220mm
Weight	4.7kg

### STANDARD DELIVERY

Main unit	1 pc
Flat anvil	1 pc
Support	4 pcs
Diamond Rockwell indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Ø2.5mm Brinell indenter	1 pc
Hardness test block HRB85-95	1 pc
Hardness test block HRC60-70	1 pc
Hardness test block HRC20-30	1 pc
Brinell test block	1 pc
Measuring microscope	1 pc
Magnifier with LED	1 pc



## PORTABLE ROCKWELL HARDNESS TESTER CODE ISHR-P151



anvil extension for thin workpieces (included)



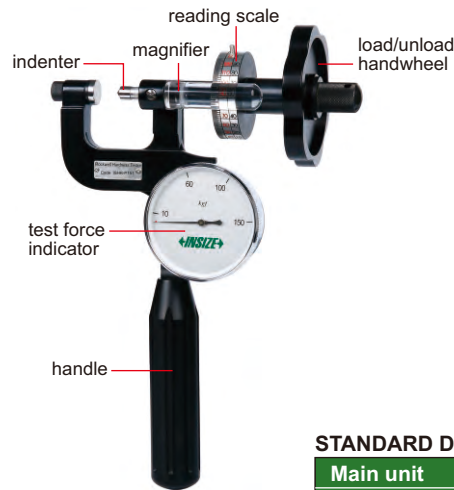
VIDEO



flat anvil (included)



V-type anvil (included)



base (included)

- According to ISO 6508, ASTM E18

### SPECIFICATION

<b>Hardness scale</b>	HRA, HRB, HRC, HRD, HRF, HRG
<b>Preliminary test force</b>	10kg
<b>Test force</b>	60kg, 100kg, 150kg
<b>Load control</b>	manual
<b>Min. reading</b>	1HR
<b>Max. workpiece thickness</b>	25mm
<b>Max. testing width</b>	25mm (from the center of indenter to the main body)
<b>Dimension</b>	240×70×160mm
<b>Weight (with base)</b>	2.5kg

### STANDARD DELIVERY

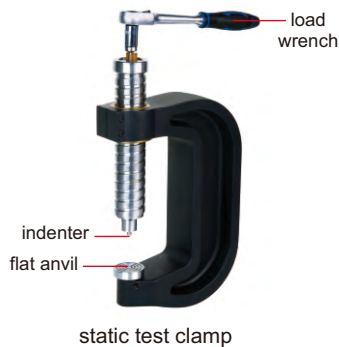
<b>Main unit</b>	1 pc
<b>Diamond indenter</b>	1 pc
<b>Ø1.5875mm carbide ball indenter</b>	2 pcs
<b>Hardness test block HRB88-95</b>	1 pc
<b>Hardness test block HRC60-65</b>	1 pc
<b>Hardness test block HRC20-30</b>	1 pc
<b>Flat anvil</b>	1 pc
<b>V-type anvil</b>	1 pc
<b>Base</b>	1 pc
<b>Anvil extension</b>	1 pc
<b>Magnifier</b>	2 pcs



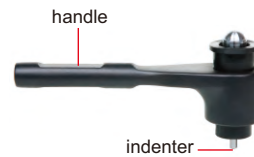
VIDEO

- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter
- Static and impact test modes
- According to ISO and ASTM standard

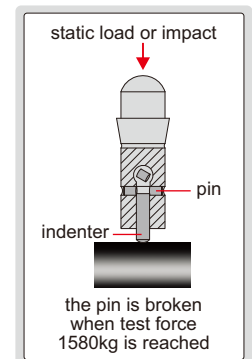
## PIN BRINELL HARDNESS TESTER CODE ISHB-P101



static test clamp



impact test handle



static test



impact test



measuring microscope (included)



pins (included)



V-type anvil (included)

### SPECIFICATION

<b>Measuring range</b>	100~350HBW (with Ø7.26mm indenter, included) 350~650HBW (with Ø4mm indenter, optional)
<b>Test force</b>	1580kg
<b>Accuracy</b>	static test: ±3% impact test: ±5%
<b>Measuring microscope</b>	20X, graduation 0.01mm
<b>Max. workpiece height of static test</b>	150mm
<b>Max. testing width of static test</b>	80mm (from the center of indenter to the clamp)
<b>Dimension</b>	195×60×350mm
<b>Weight</b>	4.2kg

### STANDARD DELIVERY

<b>Static test clamp</b>	1 pc
<b>Impact test handle</b>	1 pc
<b>Flat anvil</b>	1 pc
<b>V-type anvil</b>	1 pc
<b>Ø7.26mm indenter</b>	1 pc
<b>Hardness test block</b>	1 pc
<b>Pin</b>	250 pcs
<b>Measuring microscope</b>	1 pc

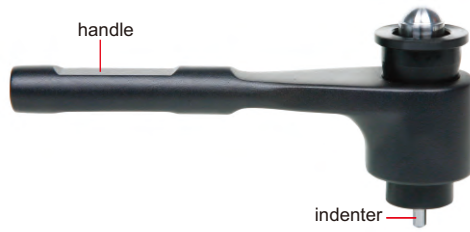
### OPTIONAL ACCESSORY

<b>Ø4mm indenter</b>	ISHB-P101-INDENTER
<b>Pin (250 pcs)</b>	ISHB-P101-PIN

## HAMMER IMPACT BRINELL HARDNESS TESTER CODE HDT-PB350



hammer impact  
to apply test force



- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and  $\varnothing 7.26\text{mm}$  ball indenter, equal to 3000kg test force and  $\varnothing 10\text{mm}$  ball indenter



### SPECIFICATION

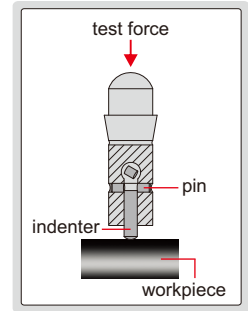
Measuring range	100~350HBW (with $\varnothing 7.26\text{mm}$ indenter, included) 350~650HBW (with $\varnothing 4\text{mm}$ indenter, optional)
Test force	1580kg
Accuracy	$\pm 5\%$ HBW
Repeatability	$\pm 5\%$ HBW
Measuring microscope	20X, graduation 0.01mm
Dimension	200×50×100mm
Weight	0.8kg



pins (included)



measuring microscope  
(included)



the pin is broken when  
test force 1580kg is reached

### STANDARD DELIVERY

Main unit	1 pc
$\varnothing 7.26\text{mm}$ indenter	1 pc
Hardness test block	1 pc
Pin	250 pcs
Pin removal tool	1 pc
Measuring microscope	1 pc

### OPTIONAL ACCESSORY

$\varnothing 4\text{mm}$ indenter	ISHB-P101-INDENTER
Pin (250 pcs)	ISHB-P101-PIN

## HYDRAULIC BRINELL HARDNESS TESTER CODE ISHB-H131



V-type anvil  
(included)



spherical anvil  
(included)



measuring microscope  
(included)

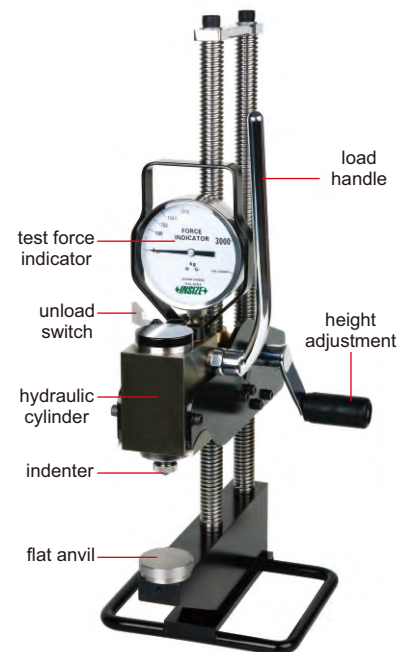
- According to ISO 6506, ASTM E10

### SPECIFICATION

Measuring range	16~650HBW
Test force	3000kg
Indenter	$\varnothing 10\text{mm}$ carbide ball
Measuring microscope	20X, graduation 0.01mm
Max. workpiece height	350mm
Max. testing width	90mm (from the center of indenter to the column)
Dimension	270×225×570mm
Weight	13.8kg

### STANDARD DELIVERY

Main unit	1 pc
Flat anvil	1 pc
V-type anvil	1 pc
Spherical anvil	1 pc
$\varnothing 10\text{mm}$ carbide ball	2 pcs
Brinell test block	2 pcs
Measuring microscope	1 pc



## CHAIN TYPE HYDRAULIC BRINELL HARDNESS TESTER CODE ISHB-C161

- To measure the hardness of cylinders or tubes
- According to ISO 6506, ASTM E10

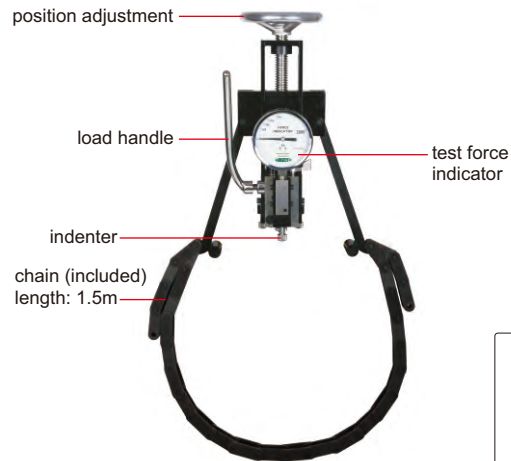


### SPECIFICATION

Measuring range	32~650HBW
Workpiece diameter range	Ø150~Ø500mm
Test force	3000kg
Indenter	Ø10mm carbide ball
Measuring microscope	20X, graduation 0.01mm
Dimension	270×225×570mm
Weight	14.5kg

### STANDARD DELIVERY

Main unit	1 pc
1.5m chain	1 pc
Ø10mm carbide ball	2 pcs
Brinell test block	2 pcs
Measuring microscope	1 pc



measuring microscope (included)



## ALUMINUM HARDNESS TESTERS

- To measure the hardness of soft metal such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-84 (2000)

### STANDARD DELIVERY

Main unit	1 pc
Spare indenter	1 pc
Hardness test block	1 pc
Wrench	1 pc



ISHW-L20B

### SPECIFICATION

Code	ISHW-L20	ISHW-L20A	ISHW-L20B	ISHW-B70	ISHW-B75	ISHW-B92
Application	for aluminum alloy general use	for aluminum alloy thick workpiece	for aluminum alloy small tube	for hard aluminum alloy and hard brass	for soft brass and copper	for soft steel and cold-rolled steel
Thickness requirement of flat workpiece	0.6~6mm	0.6~13mm	0.6~8mm	0.6~6mm	0.6~6mm	0.6~6mm
Internal diameter requirement of tube workpiece	>Ø10mm	>Ø10mm	>Ø6mm	>Ø10mm	>Ø10mm	>Ø10mm
Wall thickness requirement of tube workpiece	0.6~6mm	6~13mm (internal diameter Ø10~23.3mm) 0.6~6mm (internal diameter >Ø23.3mm)	0.6~8mm	0.6~6mm	0.6~6mm	0.6~6mm
Hardness range	0~20HW					
Min. reading	1HW					
Accuracy	±0.5HW (at 5~17HW)					
Dimension	205×30×85mm					
Weight	500g					

## BARCOL HARDNESS TESTER CODE ISHB-B300



### SPECIFICATION

Hardness range	0~100HBa (equal to 25~150HBW)
Min. reading	1HBa
Accuracy	±2HBa (at 42~52HBa) ±1HBa (at 84~88HBa)
Min. workpiece thickness	0.8mm
Dimension	142×65×90mm
Weight	500g

### STANDARD DELIVERY

Main unit	1 pc
Spare indenter	2 pcs
Hardness test block	2 pcs
Wrench	1 pc



- To measure the hardness of workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- According to ASTM B648-00, ASTM D2853-07

## DIGITAL SHORE DUROMETERS



- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Tolerance testing
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand (code ISH-DS-STANDA)
- Automatic power off



software CD  
(included)



calibration block  
(included)



printer (optional)

### SPECIFICATION

Code	ISH-DSA	ISH-DSD	ISH-DSOO
Unit	Shore A	Shore D	Shore OO
Test material	soft plastic, soft rubber, etc.	hard plastic, hard rubber, etc.	very soft plastic, rubber, sponge, textile, etc.
Measuring range	0~100HA*	0~100HD*	0~100HOO
Resolution	0.1HA	0.1HD	0.1HOO
Accuracy	±1HA	±1HD	±1HOO
Indenter protrusion	2.5mm		
Output	wireless and USB		
Power supply	built-in rechargeable battery		
Dimension	153×50×29mm		
Weight	170g		

\* Use ISH-DSD when measuring result is higher than 90HA  
Use ISH-DSA when measuring result is lower than 20HD

### STANDARD DELIVERY

Main unit	1 pc
Calibration block	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

### OPTIONAL ACCESSORY

Printer	ISH-DS-PRINTER
Test stand	ISH-DS-STANDA